

**MONITORING, VERIFICATION AND EVALUATION UNIT
AGRICULTURAL POLICY REFORM PROGRAM**

**PRODUCER SURVEY RESULTS
APRP-TRANCHE I**

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PREFACE

This report, prepared by Dr. Morsy Ali Fawzy, presents the key findings of a producer mini survey of 181 farms. It was administered by four consultants to the MVE Unit and directed by Dr. Morsy. Other members of the MVE Unit assisted in helping to design the survey instrument and reviewing earlier drafts.

The mini-survey was conducted as part of the APRP Tranche I Verification exercise in April-May 1997. It directly provided input into the verification of nine producer-related benchmarks and indirectly shed light on others. Some other information was gathered to round out the picture of GOE progress in implementing agricultural policy reform.

Although the sample size is small by typical Egyptian survey standards, it was carefully chosen to represent major cotton and rice growing areas in both Upper and Lower Egypt. Moreover, MVE is confident that the data are reliable. Analysts rather than enumerators conducted the farm interviews, greatly reducing non-sampling error. These analysts were able to probe deeper, going beyond the questionnaire where appropriate; for this purpose some questions were deliberately left open-ended.

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Finally, without the cooperation and patience of the farmers and their families in the eight surveyed governorates, this study would never have been completed.

EXECUTIVE SUMMARY

The MVE unit of APRP carried out a producer survey as part of the verification of the tranche I policy benchmarks. The producer survey was designed to verify nine benchmarks by obtaining reliable information from producers, while allowing through its method- the use of senior researchers (associate professors at the universities) rather than enumerators- for the collection of additional related observations. These observations would shed additional light on the questions raised by the implementation of these benchmarks, and they might also bring to light other issues that would need to be addressed in future benchmarks.

The MVE producer survey was a combination of formal and informal interviews, where only some of the questions were predetermined in the form of a check list and other relevant ones arose during the interview based on observations, responses, and relevant topics which the farmer wished to discuss. It was a formal mini-survey where a questionnaire was prepared and quantitative data were collected, but additional information was gathered in supplementary discussions.

Two main constraints were taken into account when deciding about the sample size. These two constraints were time availability for getting the main findings of the survey needed for the verification report and limitation of the budget assigned to this task. After examining all of the affecting factors, the total sample size was set at 181 farmers. While this size does not make it a nationally representative sample, it is large enough to indicate whether the effects of the policy reforms called for in the benchmarks were seen at the producer level.

The data show many interesting main findings which are discussed in more detail in the report. These findings varied from identifying the dominant cropping pattern in 1996/97 and comparing it with its correspondence in 1995/96; in addition the survey identified the main factors affecting farmer's decision and individuals with whom farmers consult about cropping pattern. The report also includes the findings regarding various issues concerning cotton crop production and marketing. These issues include the use of delinted cotton seeds, cotton pest control (the current and the future role of the private sector) techniques and costs. Additional issues are measuring the farmers' knowledge of the guaranteed (floor) price, their attitude towards freedom of cotton trading, and their response towards short season cotton. The data obtained from the survey concerning the related issues of fertilizer cover the following: fertilizer distribution by governorate and type of dealer, availability of fertilizer at the appropriate time, farmers' preferences for dealers of fertilizer by governorate, reasons for preference for specific type of dealer of fertilizer, and average prices of fertilizer.

The data show that about 99% of the farmers used delinted cotton seed in the 1996/97 season. However, there was a variation in farmers' attitude toward sufficiency of delinted seeds, perhaps due to different methods of distribution of these delinted seeds in each cooperative. Some farmers indicated that they were able to get any additional quantity needed of delinted seeds at the

appropriate time, while other farmers in other locations indicated they were not able to get more than their quota.

The data show farmers' responses toward their knowledge of the guaranteed (floor) price for seed cotton, its timing and their sources of information. Data indicate that only about 31% of the farmers knew, before planting, the announced guarantee price of seed cotton for the 1997 season.

The survey covered farmers' responses concerning being free to apply the preferred technique for cotton pest control. About 65% of the surveyed farmers were free to apply their preferred technique, where as 35% of the farmers indicated that they were not free, of those not free; about 85% of them reported that they can not apply the preferred technique without having the approval of the agricultural cooperative in their village, about 10% reported that there was only one source of pesticides in the agricultural cooperatives and shortage of effective pesticides supply in the private sector, and about 5% reported that this was because of their inability to pay the cost of pesticides in cash.

With respect to private sector performance in agricultural input marketing, some of the farmers reported that those who worked as dealers in the private sector in of fertilizer, seed, and veterinary services are regular traders who lack the experience necessary to deal with farmers in these areas. However, this observation is more clear in the area of pesticides, where dealers have not got enough experience about the quality of their commodities and the technical recommendations that farmers must know about applying them. Some of the farmers suggested conducting a training course for those dealers through a government program in order to increase their efficiency and information, which would lead farmers to deal more with the private sector in the area of pest control in general.

Questions about applying the short season varieties of cotton were asked only to farmers in Upper Egypt. It was found, nevertheless, that some farmers in Lower Egypt have tried, without any help of the extension agents, the experiment of growing wheat and cotton in the same rotation in different governorates such as Kafr El Sheikh and Sharkia.

Most of the farmers reported that they know about the agricultural production techniques for some field crops better than the extension agents. What they really need more is the service of extension agents in the area of marketing information and giving them economic consultant services concerning the profitability of different crop rotations.

It was noticed during the implementation of the survey that many farmers were worried about the application of the new law of "the relationship between tenants and owners of agricultural land" in October 1997 (at the beginning of the new agricultural year 1997/98). There were two different perspectives when farmers discussed this issue, depending on their position as tenants or owners. The tenants complained that the application of this law will leave them and their families without any source of finance for living, especially since most of those tenants have

extended families. Tenants were expecting to be working as hired labors for low wages per day, since the supply of labor will be increased. They claimed that this law will affect negatively the social relationships between farmers and may lead to a confrontation between both sides. Tenants rejected the idea of owning newly reclaimed land, because they want to live in the same villages with their families.

On the other hand, owners of land reported that these lands are their lands, and it is their right to have them back. Owners also believe that having their land back will benefit the agricultural sector and hence the Egyptian economy. Owners reported their expectations that a free land market (which means more appropriate rents and more freedom to change management and resource use) should lead to new cropping patterns better reflecting the profitability of different crops. Demand from processing industries would be one determinant of profitability, through output price. Owners also anticipated that changing the holding structure in agricultural land within some regions would lead the new producers to save more and have higher investment in agribusiness industries, which are also more capital intensive in its activities, and hence the trend of the cropping pattern will be changed toward growing more cash crops. They will also be able to apply modern techniques in agricultural production, especially mechanization and new post harvest methods (grading, packing, etc..), and get the advantages of the economies of scale, in their attempt to increase their net returns.

1. INTRODUCTION

The producer survey described in this volume was carried out by the MVE unit of APRP as part of the verification of the tranche I policy benchmarks. The time available to accomplish this verification was extremely limited (about three months), and the total number of benchmarks (about seventy) and related verification was very large.

The nature of the terms of reference, and the components of the scope of work of the Monitoring, Verification, and Evaluation (MVE) unit led the MVE team to decide to apply several information gathering strategies. According to the benchmarks related to the producers' activities, the team decided to adopt an information collection strategy which depended on two dimensions, namely, secondary and primary data. The first dimension implies collecting the available secondary data needed for specifying and describing the producers' population and using this data for constructing a list frame to be used in the sampling procedure. The secondary data is mainly essential to construct a multiple frame for farmers who grew cotton and rice during the 1995/96 season. For instance, secondary data concerning the national cotton varieties map, showing the various producing governorates of Egypt, was collected to stratify cotton area by variety, and the frame of rice growers within the selected areas was established too. The second dimension of data collection strategy was to design and implement a field survey to collect the primary data needed to verify the related benchmarks.

Data on producer behavior and attitudes can be gathered from primary or secondary sources. Primary sources include surveys, reports by specialized associations, and research studies by research and educational institutions, and international agencies which depend on collecting data from the field. Data collection from primary sources requires applying appropriate sampling techniques, which provide representative data for the examined population. On the other hand, secondary data include government documents and private sector studies.

The opinions of knowledgeable observers may also sometimes be the basis for verification. Opinions are derived from experience, which is itself a form of historical data, and the experiences of operators in the industry under consideration (e.g. manufacturers, distributors, traders) often provide a reasonable basis for understanding market dynamics. Experience is even more valuable when taken from a systematic sampling of experts in the targeted segment. In this producer survey additional interviews were conducted with farmers who are producing and trading seed cotton.

In designing and carrying out the producer survey, a key objective of the MVE unit was to ensure the quality of the data gathered. This is reflected in the steps taken in the implementation and the care that went into the selection of the interviewers used. To ensure reliable conclusions, MVE analysts maintained the accuracy of data by careful control of data collection techniques. In reviewing the data for reliability, MVE analysts made sure that the data collected are representative, and that no biases are built in, bearing in mind that some degree of judgment is implicit in all estimates and statistics obtained from data collected.

In tranche I, the field interviews were required to address more than one benchmark, in order to rationalize using all of the available resources and save time. This survey was carried out to provide the data needed for nine benchmarks, which are stated in the next section.

The MVE producer survey was a combination of formal and informal interviews, where only some of the questions were predetermined in the form of a check list and other relevant ones arose during the interview based on observations, responses, and relevant topics which the farmer wished to discuss. It was a formal mini-survey where a questionnaire was prepared and quantitative data were collected, but additional information was gathered in supplementary discussions.

2. SURVEY OBJECTIVES

The producer survey was designed to verify the following nine benchmarks by obtaining reliable information from producers, while allowing through its method- the use of senior researchers (associate professors at the universities) rather than enumerators- for the collection of additional related observations. These observations would shed additional light on the questions raised by the implementation of these benchmarks and they might also bring to light other issues that would need to be addressed in future benchmarks.

During the interviews with a limited sample of producers (181), the MVE unit collected the information needed to verify the following benchmarks:

- I.A.1.1.a** Cotton producers are allowed to freely choose cotton area planted, and to sell their cotton and by-products (except seeds for planting) to any registered buyers without restrictions in transporting, ginning, and trading.
- I.B.3** Eliminate government quota allocations of fertilizer, except in the case of market failure.
- I.C.1** Abolish government controls on rice exports (and imports) , and allow the private sector to purchase, process, store and export rice at prevailing free market prices.
- I.D.1** Continue to remove restrictions on the cropping pattern that are not justified by technical factors.
- II.C.1** Verify that there are no GOE price restrictions vis a vis millers (public or private) of 72% extraction wheat flour, unless their asking price exceeds the border price, or in the case of market failure.
- II.E.2** Continue to develop delinting plants for cottonseed and develop a plan to privatize these plants.
- I.A.1.4.c.** The GOE will continue to supervise the cotton pest control program (By the end of CY1994) an announcement will be made to:
 - (i) allow cotton growers to choose among MALR approved cotton pest control practices; and
 - (ii) permit the private sector to provide MALR approved pest control services directly to the farmers.
- III.B.5** Implement a public awareness campaign in support of the GOE policy for water conservation and highlighting the cost sharing program.

III.D.1

Define and finalize administration and institutional procedures required and begin recovering capital costs from farmers who benefitted from mesqa improvements completed under the Irrigation Management System Project, in accordance with the Law No.213 (1994) amendment to the Irrigation and Drainage Law.

3. METHODOLOGY

Collecting data via a sample survey is preferable in many cases, but when time is very limited and the issues are not too controversial, structured informal interviews with producers is another viable option. To implement the verification plan with regard to benchmarks relating to producers, two approaches were considered by the MVE unit.

The first approach considered is conducting a formal survey of a limited sample of farmers drawn from a multiple list frame. The classical steps of conducting a survey would be implemented; enumerators might be selected from those who are working for the sampling department of MALR. This approach has various advantages, like 1) it would permit the application of in-depth statistical analysis, and 2) it would be a complementary part for a baseline survey of cotton producers carried out by the (Cotton Sector Promotion Program)CSPP. On the other hand, this approach has the disadvantages of 1) requiring more time, effort, and budget, 2) setting up a supervisory system to guarantee data quality, and 3) additional time for data entry, processing and analysis, and review and editing of analytical findings.

A second approach, namely structured informal interviews with a limited sample of producers, was also considered. In this approach producers would to be sampled from those in the main producing governorates for the crops in question. As in the informal survey, an appropriate sampling design has to be developed by governorate, district, village, and farms. This approach has the following advantages: 1) it provides the MVE unit with additional information, since these interviews are conducted largely using a questionnaire but allow for additional questions too, and 2) most of the required information and data are to be collected during the field work, which assists in producing the verification report by the deadline.

It should be pointed out that in the case of either approach, a list of key questions would be prepared by the MVE unit to ensure that the required information for all relevant benchmarks is gathered during the field exercise.

An important consideration that can inform the choice of information gathering technique is the size of the sample frame, and the relative homogeneity or heterogeneity of farms, firms in that frame. The need to obtain information about a huge population of potential respondents, such as all cotton farmers, may not lend itself to informal interview done by analysts.

This field survey included preparing a list of questions to collect the required data, and also designing the appropriate sampling technique. The appropriate sample size was determined (as it will be explained later) and the list frame methodology was followed, by using all of the available information about the sample units in the MALR, and farmers were chosen. Simultaneously, a sub-sample was selected from cotton producers to address their attitude towards short season cotton varieties in Upper Egypt governorates.

4. SURVEY IMPLEMENTATION

The implementation of the survey included the following steps:

- (1) Preparing a list of questions and designing a short questionnaire.
- (2) Designing the intermediate tables.
- (3) Selecting the interviewers.
- (4) Implementing a short training course for the interviewers.
- (5) Pre-testing the proposed questionnaire and making decisions.
- (6) Designing the sampling scheme (based on secondary data available and nature of the studied benchmarks).
- (7) Selecting the sampled governorates, districts, villages, and farmers.
- (8) Setting up the timetable for both conducting the interviews and supervising the data collection process (depending on the estimates obtained from the pre-test).
- (9) Conducting the interviews with the selected farmers.
- (10) Receiving, reviewing and editing all of the questionnaire.
- (11) Cleaning and entering the data into computer files.
- (12) Analyzing the information and data collected.

The application of the proposed approach required:

- (a) well trained and highly qualified interviewers to implement the interviews.
- (b) a good list of key questions to ensure the generation of the required information for all of the benchmarks mentioned above.
- (c) a sampling procedure to guarantee that the selected sample represents the studied population.

The following section includes a detailed discussion for each of these factors.

4.1 Selecting Interviewers

After deciding about the methodology to be followed to implement the producer survey, the team members of the MVE unit arranged to conduct the interviews with the assistance of selected local experts, who were called associate researchers and chosen after interviewing many candidates. The main criteria for selection were: (i) having practical experience in similar activities, (ii) being unbiased researchers and not affiliated to any of the implementing organizations, and (iii) having the ability to write a comprehensive report about the studied issues in the selected governorate. An orientation session and short term training course was held to help in carrying out such a survey. The main topics of the training course were: (i) the survey objectives, (ii) the proposed questionnaire, (iii) possible additional questions, and (iv) the expected main components of the final report.

4.2 Interview Procedure and Data Recording

A list of key questions related to the studied benchmarks, in the form of a questionnaire, was prepared by the MVE unit for use in the interviews. The associate researchers did not use this list the way it works in a classical survey, but instead these listed questions were posed to the farmer in an appropriate way to: (i) give the farmer the chance to add more information about the related issues, (ii) give the interviewer an opportunity to develop additional questions and take notes as needed, and (iii) allow the interviewer to record the quantitative data in the questionnaire for each interviewed farmer.

4.3 Designing Sampling Technique

The proposed sampling procedure has been designed so that the sampled farmers represent the whole studied population. This has been done through designing a sampling technique which allowed the selected sample, via applying stratifications and clustering the studied population, to represent to a great extent the examined population. The designed sample was drawn from a multiple frame. Since the survey is supposed to provide the needed information for the mentioned benchmarks, the checklist included various questions about cropping pattern, cotton cultivation and pest control, cotton pricing and trading, wheat and rice trading, dealers of fertilizer and preferred sources for producers, and water management issues.

The designed sampling technique is very close to what is called a Multi-stage Cluster Stratified Random Sample (MCSRS). The first stage of the proposed multi-stage sampling procedure is to select a representative sample from the governorates which grow cotton, where the primary sample unit is each governorate. However, eight governorates (Behira, Kafr El Seikh, Sharkia, Dakahlia, Fayoum, Beni Suef, Minya, Assuit) are selected out of the eighteen governorates which grow cotton. The variety map of cotton cultivation implies specifying the cotton varieties which can be grown each year in the different zones for technical reasons. Sometimes there is more than one variety in some governorates. Therefore, the sampling procedure included stratifying the selected governorate according to the grown cotton varieties, if there is more than one variety. The second stage is to select districts from each stratum, if there exist more than one, from each selected governorate, sixteen districts are selected (see district names in the coding book). The third stage is choosing villages within each selected district, where thirty two villages are included in the sample. The fourth stage includes selecting farmers to be interviewed. In addition to the stratification by variety within the selected governorate, another sort of stratification has been carried out, where farmers in each selected village were classified into different size of holding groups in order to reflect the response of these groups towards the issues under study. It should be pointed out that the sample selection took into account the existence of farmers who cultivated cotton for two successive years, and those who cultivated cotton last year but did not grow it this year.

Selected Sample of Governorates, Districts, and Villages for the Mini Survey of Cotton Producers

Governorates	Varieties	Districts	Villages
Behira	G 70	Kafr El Dawar	Bardla, El Bidda El Balad
	G 76	El Mahmoudia	Dirott, Arimon
Kafr El Shiekh	G 77	Desouk	El-Agozeen, Sanhour El-Madina
	G 75	Kafr El Shiekh	Doqmera, El-Wazireya
Dakahlia	G 75	Talkha	Bahout, Banoub
	G 86	El Simbelaween	Shobra hour, Abou Karamaat
Sharkia	G 85	Diarb Negm	Diarb Negm El Balad, Monshaat Sahbra
		Awlad Sakr	El Sofia, Telrak
Fayoum	G 85	Etsa Fayoum	Defno, Katoun Zawiet El Kerdasa, Dasia
Beni Suef	G 80	Ahnasia El Fashn	Qay, El Awawna Akfhas, El Konissa
Minya	G 80	Beni Mazar Samalott	El-Quess, Ashroba Beni Hakam, Menakateen
Assiut	G 83	Assiut Manfalout	Mosha, Salam Hawatka, Beni Odayat

With respect to sample size determination, two main constraints were taken into account when studying this issue. These two constraints are time availability for getting the main findings of the survey needed for the verification report and limitation of the budget assigned to this task. After examining all of the affecting factors, the total sample size was set at 181 farmers. While this size does not make it nationally representative sample, it is large enough to indicate whether the effects of the policy reforms called for in the benchmarks were seen at the producer level. Note, also, that the producer survey is not the primary form of verification of some of the benchmarks, e.g., rice marketing and fertilizer distribution. For these benchmarks, however, the producer survey is a valuable source of complementary and supplementary information.

4.4 Timing of the Survey

The survey was started in April, 1997. The reason for that is to ensure that all of the farmers who were planning to grow cotton had already planted; Hence, for example, questions concerning the comparison between the current cotton cultivated area and last year's, for the same farmer, could be precisely answered.

5. GENERAL FEATURES OF THE SAMPLED FARMS

Table 1 shows the distribution of the sampled farmers by size of holding and by governorate as it has been obtained from the survey. It indicates that about 38% of the sampled farmers operate farms less than three feddans, 20% operate three to five feddans, and about 42% operate a farm of more than five feddans. Table 1 also indicates, with respect to the sampled farmers distribution within each governorate, that this distribution varies from one governorate to another. In Lower Egypt (Delta governorates) this distribution varies from 33%, 29%, and 38% to the same three mentioned categories in Dakahlia governorate, to 50%, 20%, and 30% for the same categories in Behira governorate. However, in Upper Egypt this distribution differs from that in Lower Egypt, and varies from one governorate to another too. This distribution is found to be about 61%, 17%, and 22% for the above three mentioned categories respectively, in Minya governorate, where it is shown to be about 8%, 25% and 67% for the same categories respectively in Assuit governorate.

Table 2 represents the distribution of average farm size, the percentage of area operated by sampled farmers, by size of holding and by governorate, 1996/97. Data in Table 2 indicate that in the category of farmers with an area of less than 3 feddans, which represents about 8% of the total sampled area, the overall average farm size is about 1.8 feddans, and the estimated value of this average for each of the sampled governorates is very close except for Assuit governorate where its average of 2.9 feddans is higher than the overall mean. With respect to the farm size category of size 3 to 5 feddans, which represents about 9% of the total sampled area, the average farm size is about 3.6 feddans, and the estimated value of this average for each of the sampled governorates, is very close to this value except for Fayoum governorate which is about 4.5 feddans. In the farm size category of 5 to 10 feddans, which represents about 18% of the total sampled farmers, the average farm size is about 6.7 feddans, and the corresponding estimate for the sampled governorates is close to this estimate except in the case of Kafr El Sheikh (9.1 feddans) and Assuit (5.6 feddans) governorates. According to the category of farmers whose operated area is 10 feddans and more, which the area represents about 64% of the total sampled area, the average farm size is 24.9 feddans, and these averages varied from 10 to 50 feddans as in Sharkia and Kafr-El-Sheikh governorates; respectively.

Table 3 shows the distribution of owners and tenants by governorate in 1996/97. The distribution of number of farmers who completely own their own farms ranged from about 46% in Assuit governorate to about 95% in Sharkia governorate, with an overall average of about 70% for the total sampled farmers. Table 3 also indicates that pure tenants farmers are concentrated in Behira, Dakhlia, Fayoum, and Beni Suef governorates, and they are all in the small farmer group. The data also show that most of the farmers in the sample in both Minya and Assuit governorates, about 52% and 54% respectively, are both tenants and owners of their operated farms; i.e, those who only own part of their farm and rented the other part.

6. MAIN FINDINGS OF THE SURVEY

6.1 Cropping Pattern

Tables 4-a and 6-a show the distribution of crops planted by farmers in each governorate in 1995/96 and 1996/97. Data in Table 4-a show that with respect to the main winter crops, which were found to be wheat, fava beans, short berseem, long berseem, and vegetable crops. It should be noticed that the total of crop planting is greater than the total number of interviewed farmers in each governorate. The total planting allows for calculation of percentages that show the relative importance of each crop within the winter and summer seasons, percentage of farmers who grew these crops were about 34%, 18%, 25%, 20%, 2.5%, and 1% of the total planting sampled farmers who cultivated winter crops in the agricultural year 1995/96; respectively. Data in Table 6-a show that there are some changes in the distribution for those who grew winter crops in the agricultural year 1996/97 compared to those who grew them in 1995/96. For instance, the percentage of those who grew wheat and fava beans increased from about 34% to 38% and from about 18% to 19%, respectively, while this percentage has been decreased for long berseem from about 20% to 14% and for vegetables from 2.5% to 1.7%.

Data in Tables 4-b and 6-b show the number of farmers who grew the major field crops in the winter and summer seasons, and this number as a percentage of the total number of sampled farmers .

On the other hand, with respect to the main summer crops, which were found to be cotton, rice, maize, sorghum, and vegetables, the proportion of the sampled farmers who grew these crops in 1995/96 (Table 4-b) were found to be about 39%, 23%, 27%, 5%, and 1% respectively. Data in Table 6-a show that there are some changes in the distribution of 1996/97 compared to 1995/96, where the percentage increased for sorghum, decreased for rice, and being almost the same for cotton and maize.

Tables 5 and 7 show the area planted of winter and summer crops by sampled farmers in each governorate in the two consecutive years 1995/96 and 1996/97. It should be pointed out that the area cultivated with cotton decreased from 42% to 38% of the total summer crop area. This result is consistent with results obtained from Tables 4-a and 6-a. Also, with respect to the rice crop, the data show that there is a slight change in both the cultivated area and the number of farmers. On the contrary the area cultivated by maize is expected to increase from 26.6% to 27.3% of the total summer crop area in the current season (the survey was conducted before the time of planting maize).

Changes in the number of farmers growing major field crops and area cultivated with these crops by governorate are presented in Tables 8 and 9. Data in Table 8 indicated that, with respect to cotton crop, the number of farmers who planted cotton this year (1997) would be less by about 5% of those who grew cotton last year (1996). The large reduction in the number of cotton growers were found to be in Sharkia and Kafr El Sheikh governorates, with about 21% and 16%,

respectively, while the largest increase (about 20%) was in Behira governorate. The area cultivated by cotton this year (1997) is expected to be less by 2% than that cultivated last year. Data in Tables 8 and 9, with respect to rice, indicate that even though there is a slight decrease in number of farmers who grow rice (about 1%), the area under rice this year (1997) is expected to be 13% more than the area last year (1996). The number of farmers growing maize this year (1997) decreased to about 4% less than that of last year (1996), while the area increased by about 13%. These results are consistent with the initial statistics available about area cultivated with major field crops.

Reasons for changing the area cultivated of the main field crops were identified (Tables 10-16). In the case of cotton the main reasons were the crop rotation and the neighbors plans (83%), and changing of relative profits of different crop rotation (16%). In the case of rice the main reasons were the crop rotation and the neighbors plans (about 69%), changing the relative profits of crop rotations (about 16%), and the need for providing families' consumption of food crop (about 11%). The reasons in case of maize was not really different than that of rice, the crop rotation and the neighbors plans (44%), changing relative profits of crop rotation (26%), and for providing own consumption of food crops and feeding livestock (about 30%).

Table 18 showed farmers' responses towards being free in determining their cropping pattern. About 61% of the surveyed farmers reported that farmers are the decision makers of their cropping pattern on their farm, about 9% indicated that they make the decision in cooperation with their neighbors, 27% reported that their cropping pattern is determined by the dominant crop rotation in their village, and about 3% followed the largest farmer in Hode (Hode is defined as a parcel of 150-250 feddans, and is determined by natural border. It is used as parameter for taxation and facilitate land irrigation). It should be mentioned that farmers who reported that they follow crop rotation declared that they can violate the rotation if they want but they prefer to follow it in order to avoid negatively affecting any of their neighbors. Many examples were found among rice growers, where farmers grew rice, while according to the rotation they were not supposed to grow it. Also, farmers who mentioned that they follow the largest farmer in the Hode were located in Assuit governorate which agrees with the traditions dominant in Upper Egypt.

Table 19 shows data about the different individuals with whom farmers consult about cropping patterns. These individuals were found to be relatives and neighbors (49%), extension agents (18%), neighbors and extension agents together (16%), landlord or the partner farmer (2%), and farmers who reported that they do not consult anybody (16%).

6.2 Cotton

This section includes the main findings of the survey with respect to various issues concerning cotton crop production and marketing. It should be pointed out that cotton has the biggest share of the benchmarks in Tranche I of APRP. The reason for that focus is that the cotton crop is considered strategically important in Egypt, not only from the agricultural perspective, but also for the whole economy. The reason for that relative importance of cotton in the agricultural sector is that cotton occupies a large proportion of the cropped area in the

summer season and represents an important source of agricultural income. In addition, the cotton crop is the main source of raw material for the textile industry in Egypt. Therefore, cotton has maintained its position as one of the major field crops in the Egyptian cropping pattern for a long time. One of the main advantages of cotton is that it yields several products, including about 1.7 million tons of seeds, which when processed produce about 85,000 tons of food oil, as well as having 1.3 million tons of animal feed as a by-product of this process.

6.2.1 Delinted Cottonseed

Data in Table 22 show that about 99% of the total sampled farmers used delinted cotton seed in the 1996/97 season. The survey data also indicate that the germination ratio of these seeds has reached its maximum in Minya governorate (95%) and its minimum in Sharkia governorate (67%). About 37% of the total sampled farmers reported that the seed quota which they bought from the agricultural cooperatives was only sufficient for planting once, while about 11% of the interviewed farmers indicated that this quota was sufficient for both cultivation and replanting. On the other hand, about 37% of the farmers consider that this quota is not sufficient for cotton cultivation, and about 15% consider it not sufficient for both cultivation and replanting.

It should be pointed out that the variation of farmers' attitude toward sufficiency of delinted seeds, which is really distributed to farmers through agricultural cooperatives in villages, may be due to the different ways followed in managing the distribution of these delinted seeds in each cooperative. Some farmers indicated that they were able to get any additional quantity needed of delinted seeds at the appropriate time, while other farmers in other locations indicated their incapability of getting more than their quota.

6.2.2 Cotton Pest Control

Data in Table 23 show the surveyed farmers' responses concerning being free to apply the preferred technique for cotton pest control. About 65% of the surveyed farmers were free to apply their preferred technique, where as 35% of the farmers indicated that they were not free, of those not free, about 85% of them reported that they can not apply the preferred technique without having the approval of the agricultural cooperative in their village, about 10% reported that there was only one source of pesticides in the agricultural cooperatives and shortage of effective pesticides supply in the private sector, and about 5% reported that this was because of their incapability to pay costs of pesticides in cash. It should be pointed out that some of the surveyed farmers reported the unavailability of the appropriate insecticides in terms of quantity and quality for each stage during the plant's life. When some of the government employees in agricultural cooperatives were interviewed they reported that it is important to consult them in order to determine the quantity required of type of insecticide that is provided by the ministry of agriculture.

Data in Table 24 indicate that farmers in upper Egypt rely more, in their cotton pest control process, on the services provided by the agricultural cooperative because they think that it has more capabilities to provide better service for less costs compared with the private sector,

while farmers in lower Egypt were taking a bigger role in this process by carrying out additional manual and chemical pest control practices, the costs of which are paid by farmers.

Data in Table 25 indicate that about 82% of the farmers were not using the private sector's services in the area of cotton pest control; of the farmers not using private services, about 40% reported that this is because of the unavailability of these services in the neighborhood of farmers, about 34% of them because of the lack of confidence in prices and quality of services of the private sector, about 16% of them because of not having cash to pay costs immediately, about 8% reported that they do not use the private sector services since it is already provided by the agricultural cooperatives, and about 2% mentioned that they do not have enough information about services provided by the private sector. That is, there are three main factors which affect farmers decision to not use private sector services in cotton pest control: first, the limited supply of private sector services near farmers and hence a lack of information about these services (about 42%), second, farmers' lack of confidence in the price and quality of services provided by the private sector in this area, which was supported in some locations by some farmers' bad experience when they tried to use these service (34%), and third, historical dealings with the agricultural cooperatives and the credit facilities offered by it (about 24%).

It should be mentioned that some of the farmers reported that those who worked as dealers in the private sector in activities of fertilizer, seed, and veterinary services are regular traders who lack the needed experience to deal with farmers in these areas. However, this observation is more clear in the area of pesticides where dealers have not got enough experience about the quality of their commodities and the attached technical recommendations which farmers want to know about applying it. Some of the farmers suggested conducting a training course for those dealers through a government program in order to increase their efficiency and information, which will lead farmers to deal more with the private sector in the area of pest control in general.

Data in Table 26 show farmers' attitudes toward future use of cotton pest control services provided by the private sector, where about 32% reported that they will use these services, and about 68% indicated that they will not use it. Reasons for not using the private sector services in the future remain more or less the same as that exist currently, where about 44% of them suspect the reliability of quality and costs of pesticides sold by the private sector. On the contrary about 42% of them reported that they trust the quality of pesticides offered by the agricultural cooperatives because its source is the MALR, while about 3% said that there is no control by the government on the quality of pesticides supplied by the private sector, and about 11% reported that they can not pay costs of pesticides in cash.

When farmers were asked about their estimation of the Government's share in the variable costs of cotton pest control per feddan, the estimated average of total costs was about LE 550 per feddan; LE 278 of it was paid by farmer (about 49%) and LE 272 (about 51%) was paid by the Government (Table 27). That is, farmers estimated the subsidy paid by the Government in the total variable costs of cotton pest control by about the half, in addition to salaries of agricultural supervisors and their transportation costs. There was a clear variation between governorates in

the proportion of the Government's share in this costs. All of the surveyed governorates in Upper Egypt estimated this share between 62% and 80%, where the surveyed governorates in Lower Egypt estimated the Government's proportion differently, ranging between 12% (as in Behira) and 74% (as in Kafr El Sheikh).

6.2.3 Floor (Guaranteed) Price

Table 28 represents farmers' responses toward their knowledge of the guaranteed (floor) price for seed cotton, its timing and their sources of information. Data indicate that only 55 farmers knew the announced guarantee price of seed cotton for the 1997 season; this represented about 31% of the total sampled farmers. All of those 55 farmers knew about this price before planting, and 54 of them knew through the media, while only one farmer knew from relatives and neighbors in the village. It should be pointed out that all of those farmers who knew about the guaranteed price believed that this announced price (which is LE 500 per kentar of seed cotton) was the floor price irrespective of the variety. This response may lead the extension service to give more attention to provide farmers with market information services, explaining to them the marketing situation and the state of economic policy, especially in the areas related to agribusiness.

6.2.4 Cotton Trading

Table 29 shows farmers' attitudes towards freedom of cotton trading and reasons for not being free and types of dealers. The data obtained from the survey concerning cotton trade indicate that 165 farmers, who represent about 98% of the total sampled farmers, believed that cotton trading was not free last year. Those farmers justify their belief by referring to three main issues concerning this topic. First, about 70% of those farmers reported that there was only one buyer, which was the marketing circles of PBDAC; it is obvious that farmers were comparing the 1996/97 season with the previous season (1995/96), when they had different types of traders and enjoyed the benefits of competition between buyers to get farmers' cotton crop. Second, about 26% of those farmers consider that those who were acting as cotton traders were in fact brokers; since their activity was mainly to buy cotton from farmers in lower price than that offered by the marketing circles and sell back to the marketing circles with the guaranteed price. However, all of those farmers who dealt with cotton traders were small farmers who needed cash to finance their activities or to satisfy their family needs. Third, some of the large cotton producers (who are also well educated) declared their understanding of the reason for government intervention in the cotton marketing, and they consider what happened in 1996/97 an exception. They believe that in the future, cotton marketing will be back as it was in 1995/96, and that is why they decided to increase cotton area for this season 1997/98.

Table 30 shows the number of sampled cotton growers, their cultivated cotton area in 1996/97, the average quantity of seed cotton sold to the main buyers, and its sale price. According to the survey results, 160 farmers, who represent about 95% of the cotton growers in the sample, indicated that they sold their product to the marketing circles with an average of 19.9 kentars per farmer and 7.6 kentars per feddan. It should be noted that selling to local traders was

reported in Assuit and Fayoum governorates only, where the average of quantity sold to local traders was 9.5 kentars per farmer and 5.5 kentars per feddan in Assuit governorate, and 64 and 8 kentars per farmer and per feddan respectively in Fayoum. It should be mentioned that these estimates for Fayoum governorate were for one farmer who produced cotton without using insecticides and sold it to one of the trading companies for 630 LE per kantar, while the average price for selling to the marketing circles was about LE 490 per kantar. There was also another pattern for selling cotton where farmers sold part of their product to marketing circles and another part to local traders; this pattern was found in Dakahlia, Fayoum, and Minya governorates. The reason for having this pattern is that, because some of the small farmers need cash urgently, they sell part of their product to the local traders at a lower price (LE 20 per kantar less on the average) and keep the rest of the product for sale to PBDAC. Data in Table 30 show the average price per kantar for each type of different buyers, where the average sales price paid by marketing circles was higher than that paid by local traders.

6.2.5 Short Season Cotton Varieties

Table 31 shows farmers' attitude towards short season cotton in four governorates in Middle and Upper Egypt. Survey data indicate that the sampled farmers consider that the short season varieties of cotton mean that they can grow wheat and cotton in the same rotation. This actually explains farmers' response when they were asked if they had ever heard about short season cotton varieties, where only 5 farmers out of 91, representing about 6% of the sample, indicated that they had heard about it. When farmers were asked if they were willing to plant these varieties, if they exist, their response was enthusiastic: where 84 farmers, who represent about 92%, indicated their willingness to try growing it, while 7 farmers, who represent about 8% of the sampled farmers, indicated their unwillingness to give these varieties a try. The latter said they would prefer to wait until some other farmers try them first and are sure of their success. Some other farmers think that growing wheat and cotton in the same rotation will exhaust the soil and make it less fertile, which will lead to low yield in the following years.

6.3 Fertilizer

The data obtained from the survey shows that the sampled farmers use six types of chemical fertilizers most frequently: ammonium nitrate, urea, super phosphate, potassium phosphate, ammonium sulphate, and imported super phosphate. Data also indicate that farmers buy these types of fertilizers from three main sources, which are agricultural cooperatives, PBDAC, and local traders (private sector). The data obtained from the survey concerning the related issues of fertilizer cover the following: fertilizer distribution by governorate and type of dealer, availability of fertilizer at the appropriate time, farmers' preferences for dealers of fertilizer by governorate, reasons for preference for specific type of dealer of fertilizer (for the total sampled farmers and for each governorate), and average prices of fertilizer by governorate and dealer. These data are represented in Tables 32-44.

It should be pointed out that during the survey two main issues were obvious in farmers' responses about fertilizer. The first issue is that the farmers were really affected by what happened

in the previous season during the “fertilizer crisis” (1995/96), and they think that the private sector is responsible for it. The second issue is that farmers still confuse PBDAC and the agricultural cooperatives, especially when responding to fertilizer questions.

Table 32 indicates that most of the sampled farmers prefer to buy their chemical fertilizer from the agricultural cooperatives. The data show that 173 farmers who represent about 96% of the interviewed farmers, use ammonium nitrate (33.5%), and 159 farmers, who represent about 88% of the interviewed farmers, use urea (46.5%) and super phosphate (15.5%). The data also show that the rest of the most commonly used types of fertilizer, potassium phosphate, ammonium sulphate, and imported super phosphate, are purchased by 39%, 18%, and 2% of the sample farmers, respectively. However, the distribution of these types of fertilizers between dealers differs from one type to another. Regarding the ammonium nitrate users, the data show that 121, 17, and 35 farmers, who represent about 70%, 10%, and 20% of these users, buy fertilizers from agricultural cooperatives, PBDAC, and local dealers (private sector) respectively. Even though the overall proportion of farmers who use urea and super phosphate fertilizers in the total sample is the same, the distribution of these types of fertilizers between dealers differs from one type to another. Regarding the urea users, the data show that 104, 20, and 35 farmers, who represent about 65%, 13%, and 22% of these users buy fertilizers from agricultural cooperatives, PBDAC, and local dealers (private sector), respectively. While with respect to super phosphate users, data in the table shows that 104, 12, and 43 farmers who represent about 65%, 8%, and 27% of these users buy it from agricultural cooperatives, PBDAC, and local traders, respectively.

Table 33 shows farmers’ responses about the availability of fertilizer at the appropriate time. The data in Table 33 indicate that the number of farmers who get their fertilizer requirements at the appropriate time are 162 (representing about 90% of the total). However, this percentage varied from one governorate to another. It ranged from 61%, in Minya governorate to 100% in both Dakahlia and Fayoum governorates. Sixteen farmers declared that they did not get fertilizer at the appropriate time. They mentioned two reasons (i) unavailability of fertilizer in the market at the time it was needed, and (ii) not having cash to buy from the private sector.

Table 34 shows the preference map of the interviewed farmers for different types of fertilizer dealers for each governorate. The proportion of the sampled farmers who preferred to buy fertilizer from agricultural cooperatives ranged from 75% in both Fayoum and Assuit to about 17% and 0% in Behira and Beni Suef, respectively. Meanwhile, the proportion of those who preferred to buy fertilizers from the PBDAC was found to be between 83% of the total sampled farmers, in Beni Suef, and 0% in Fayoum and Minya governorates. The proportion of the sampled farmers who prefer to buy their fertilizer from local traders ranged from 0% as in Assuit to about 35% in Minya governorates.

Table 35 shows reasons for preferring specific types of fertilizer dealers. The data indicate that 83 farmers (represent about 46% of the total sampled farmers) preferred to buy their fertilizer from agricultural cooperatives; of those 31, 34, and 18 farmers (who represent 37%, 41%, and 22% of the sample) justified this preference because of the good quality, lower price, and better service, respectively. Those who preferred to buy from the PBDAC were 52 farmers (representing

about 29% of the total sampled farmers), of which 20, 22, and 10 farmers (who represent about 39%, 42%, and 19%, respectively) preferred this source because of the above three mentioned reasons. On the other hand, 17 farmers (who represent about 9% of the total sample) indicated their preference to buy their fertilizer from both agricultural cooperatives and the PBDAC. That is, about 84% of the sampled farmers prefer to buy what they need from either the agricultural cooperatives or the PBDAC or both. Meanwhile, 29 farmers (representing the remaining 16% of the sampled farmers) indicated their preference to buy fertilizer from the private sector. Of this 29, 11 farmers (representing about 38%) prefer this source because of its good quality, 2 farmers (representing about 7%) prefer it because of its lower price, and 16 farmers (representing about 55%) prefer it because of better services.

Table 35 also indicates that 69 farmers (representing about 38% of the total sampled farmers) prefer buying fertilizer from sources which have better quality, while 66 farmers (who represent about 37% of the total sampled farmers) prefer buying fertilizer from sources with lower prices, and 46 farmers (representing about 25% of the total sampled farmers) prefer buying fertilizer from sources with better services.

Tables 36 to 43 show the reasons stated for preferring specific types of fertilizer dealers in each governorate. In Behira farmers were found to prefer cooperatives and PBDAC because of their lower prices, and they prefer local traders because of their better services. Farmers in Kafr El sheikh governorate prefer cooperatives and PBDAC for their good quality and prefer local traders for their better services. In Sharkia and Dakahlia governorates farmers prefer cooperatives and the PBDAC because of their good quality and lower prices, while they prefer local traders because of their better services. In Fayoum governorate none of the interviewed farmers mentioned that he has a reason to buy fertilizer from the PBDAC, and farmers in this governorate reported that their main concern is the good quality of fertilizer which is satisfied in the fertilizer provided by other sources (cooperatives and private sector). On the contrary, in Beni Suef none of the interviewed farmers reported any specific reason for buying fertilizers from agricultural cooperatives, and instead they prefer to buy it from the PBDAC, mainly because of its good quality and lower prices, and from local traders because of their better services. In Menya governorate farmers prefer to buy their fertilizers from either agricultural coops because of lower prices or from local traders for better services. In Assuit governorate farmers were found to deal only with either cooperatives or PBDAC, because both of them offer fertilizers at lower prices and of good quality.

Data in Table 44 show that according to the sampled farmers prices of fertilizers varied from one source to another with respect to specific type of fertilizer. For instance, the average price of a package of 50 kilogram (Shekara) of ammonium nitrate was about LE 23.5, LE 24.5, and LE 28 from cooperatives, PBDAC, and private sector; respectively. While for the same package of urea the average price was about LE 27.9, 27.8, and 29 for the same three sources mentioned above, respectively. With respect to super phosphate fertilizer the average farmer price for the same package was about LE 15.2, LE 15.9, and LE 15.5 for the same mentioned sources, respectively. The average farmers' price of ammonium sulphate (20.5%) was about LE 21 for either the coops or the PBDAC, and about LE 22 for local traders (the private sector). It is

obvious that average prices for some specific types of fertilizers are very close for the three mentioned sources of fertilizer distribution, especially urea, super phosphate, and ammonium sulphate. With respect to ammonium nitrate it has been found that even though prices offered by private sector are higher than those from either the cooperatives or the PBDAC, farmers buy some it from the private sector because of its availability in local traders' stores when needed.

6.4 Rice

Rice is considered one of the major food crops in Egypt, and the second export crop next to cotton. Therefore, it represents one of the main areas of the agricultural policy reform program from various dimensions. For instance, implementing a research plan for promoting new high yielding varieties that require less water leads to concentrating on increasing (or at least maintaining) the area of the varieties demanded for exports.

Rice production is mainly located in lower Egypt, namely in Behira, Kafr El Sheikh, Sharkia, Dakahlia, Gharbia, and Damietta governorates, where the average area under rice during the period (1980-1995) represents about 17%, 23 %, 14%, 30%, 10%, and 6% respectively of the total cultivated area of rice in Egypt, respectively. Rice area in Middle Egypt is located mainly in Fayoum, where it represents about 1.7% of the total rice area in the country during the same period. It should be pointed out that five of the main rice producing governorates are in the sample, namely Behira, Kafr El Sheikh, Sarkia, Dakahlia and Fayoum.

Table 45 indicates the sampled farmers' responses about their freedom to trade rice and the distribution of their sales. The data show the complete freedom of farmers to trade their rice crop; where all of the sampled farmers indicated their ability to sell their rice crop in 1996/97 to any source. About 58% of the rice producers sold their crop to local traders, about 9% sold it to a mill agent, and the same percentage was sold to consumers in the neighborhood of farmers at the same farm gate price. About 24% of the sampled farmers indicated that they sold their crop to both traders and consumers. It should be pointed out that there are some zones in the main rice producing governorates, especially in Dakahlia, Sharkia, and Behira, where the consumption pattern of the population depends heavily on rice as the main food. Therefore, farmers in these areas store a large proportion of their production for their own consumption, and send part of this production to family members who live in urban areas.

Table 46 shows the average quantity sold and sale price of rice by type of dealer and by governorate. It should be noticed that because of the variation in yields of different varieties, and also because of the farmers' freedom of rice trading, the average quantity sold to each source, either per farmer or per feddan, differs from one farmer to another within the same governorate or between governorates. Table 46 also shows that the average sale price per ton of paddy rice varies from one governorate to another for the same source, and it also varies for the different sources of buying rice within the same governorate. Data in Table 46 indicates that the average sale price to local traders was about LE686/ton, LE797/ton, LE686/ton, LE753/ton, LE850/ton, LE850/ton, in Behira, Kafr El Sheikh, Sharkia, Dakahlia, Fayoum, Beni Suf governorates, respectively. The average sale price to mill agents was found to be LE716/ton, LE688/ton,

LE520/ton in Behira, Kafr ElSheikh, and Sarkia governorates, respectively, and the average sale price to consumers was LE750/ton and LE700/ton in Sharkia and Dakahlia governorates, respectively.

6.5 Water Conservation

When the interviewer asked farmers about their awareness of the necessity to conserve water, about 83% of them responded that they know about this issue. About 64% of those farmers got their information through the media, 27% from the agricultural engineers in the cooperatives, and about 9% from neighbors (Table 47). It should be pointed out that about 85% of the small farmers (with less than 5 feddans) and about 81% of the large farmers with more than five feddans see Tables 1 and 48 were aware of this issue; this is a very high percentage in both groups.

When farmers were asked about their knowledge of mesqa improvement project (IIP), it was found that farmers in some governorates have not heard about it (Table 49), where as farmers in Kafr El Sheikh and Minya governorates were found to be more familiar with this project. Moreover, the project was found to be implemented in one of the sampled villages in Minya governorate.

7. GENERAL COMMENTS

The following comments were based on either observations seen by the data collection team or reports by the farmers during the survey. Even though these comments are not supported by statistical data some of it worth to be further investigated and analyzed through conducting the appropriate study.

7.1 Farmers and the Role of Agricultural Extension

1. One of the most frequent observations made by the surveyed farmers was the missing role of the extension agent in the village. Most of the farmers reported that they know about the agricultural production techniques for some field crops better than the extension agents. What they really need more is the service of extension agents in the area of marketing information and giving them economic consultant services concerning the profitability of different crop rotations.

2. The questions concerning applying the short season varieties of cotton were asked only to the surveyed farmers in Upper Egypt. It was found, nevertheless, that some farmers in Lower Egypt have tried alone, without any help of the extension agents, the experiment of growing wheat and cotton in the same rotation in different governorates such as Kafr El Sheikh and Sharkia. Those farmers tried this experiment through growing cotton by applying the transplanting technique, which is not the common technique used in growing cotton in Egypt. Farmers used some of the known varieties, Sakha 69 of wheat and Giza 75 of cotton, and they got on the average about 16 ardab/feddan of wheat and 9 kantar/feddan of cotton (El Hoaber and Shambala villages in Sharkia governorate and Sanhour El Madina in Kafr El Sheikh governorate). It should be mentioned that farmers reported that they used more manure and chemical fertilizer (about 50% more than the regular amount per feddan), but the profitability of this rotation compared with other rotations was relatively higher. It also provides farmers with both the main food crop (wheat) and cash from marketing cotton. However, farmers reported that this type of rotation required very fertile soil.

7.2 Application of the New Law of Tenants of Agricultural Land

1. It was noticed during the implementation of the survey that many farmers were worried about the application of the new law of “the relationship between tenants and owners of agricultural land” in October 1997 (at the beginning of the new agricultural year 1997/98). There were two different perspectives when farmers discussed this issue, depending on their position as tenants or owners. The tenants complained that the application of this law will leave them and their families without any source of finance for living, especially since most of those tenants have extended families. Tenants were expecting to be working as hired labors for low wages per day since the supply of labor will be increased. They claimed that this law will affect negatively the social relationships between farmers and may lead to a confrontation between both sides. Tenants

rejected the idea of owning newly reclaimed land because they want to live in the same villages with their families.

On the other hand owners of land reported that these lands are their lands and it is their right to have them back. Owners also believe that having their land back will benefit the agricultural sector and hence the Egyptian economy. Owners reported their expectations that free land market (which means more appropriate rents and more freedom to change management and resource use) should lead to new cropping pattern better reflecting profitability of different crops. Demand from processing industries would be one determinant of profitability, through output price. Owners also anticipated that changing the holding structure in agricultural land within some regions would lead the new producers to save more and have higher investment in agribusiness industries, which are also more capital intensive in its activities, and hence the trend of the cropping pattern will be changed toward growing more cash crops to compensate all items of costs including capital use' cost. They will also be able to apply modern techniques in agricultural production, especially mechanization and new post harvest methods (grading, packing, etc..), and get the advantages of the economies of scale, in their attempt to increase their net returns.

QUESTIONNAIRE

Ministry Of Agriculture and Land Reclamation
Agricultural Policy Reform Project (APRP)

Governorate: _____.

District: _____.

Village: _____ Distance to main road: _____.

Name of Farmer: _____.

Size of holding:	<u>Total</u>		<u>Owned</u>		<u>Rented</u>	
	F	K	F	K	F	K
	---	---	---	---	---	---

Interviewer: _____ Date: _____.

All of the data included in this questionnaire are confidential and collected to serve the scientific research and formulating agriculture policy purposes.

1-Cropping Pattern:

Seasons and Crops	Variety	Cultivated Area				Production		Unit of Production
		1996		1997		1996	1997	
		Fed.	Ker.	Fed.	Ker.			
<u>Winter:</u>								
<u>Summer:</u>								
<u>Nili:</u>								

2- What are the reasons behind changing the cultivated area for the following crops:

- Cotton

- Rice

- Corn

- Wheat

- Fava Beans

- Berseem

3- Who decides which crops you plant, and area allocated to each crop?

4- Whom do you normally consult in your decision for the cropping pattern? Why?

Fertilizers:

5- How many dealers are you buying fertilizers from? What quality of fertilizer do you get from each of them? And what is the price you pay to each of them?

<u>Type of Fertilizer</u>	<u>Type of Dealer</u>	<u>Location of dealer</u>	<u>Price/Unit</u>
<hr/>	<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>	<hr/>

6- Are they offering you different quality and services? How?

7- Who do you prefer to buy your fertilizers from? Why?

8-Did you get all the fertilizers you wanted (or needed) at the appropriate time?(yes/no)

If No, What are the reasons?

Cotton:

9- Were you free to sell your seed cotton to any buyer last year?(yes/no)?

If No, what are the reasons?

10- How many buyers made you an offer for buying your cotton production ? and who are they?

<u>Type of Buyer</u>	<u>Offer</u>	<u>Sale Price</u>	<u>Q'ty bought</u>	<u>Remarks</u>
	<u>Price/Ken</u>			
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----

11- What are the reasons for choosing this particular buyer?

12- Do you know what is the guaranteed (floor) price of Cotton this year (1997)?

<u>Variety</u>	<u>Price/Ken.</u>
-----	-----
-----	-----
-----	-----

13- Did you know it before planting cotton? And what was your source?

Delinted Cottonseeds:

14- Do you use delinted cottonseeds? If so, what proportion of your total seed is delinted cotton seeds?

15- Do you get enough delinted seeds for planting and replanting cotton? (yes/ no)
If no, what are the reasons?

16- What do you think about the germination ratio for delinted seeds?

Short Season Cotton (for Upper Egypt Governorates):

17- Have you heard before about short season cotton, which can be planted with wheat in the same rotation?
(yes/no)

If yes, how did you know about it? What is your source?

18- If you did not hear before about this experiment, what do you think about it (after explaining the experiment to the farmer)?

19- Would you be willing to plant this short season cotton?(yes/no)
If no what are the reasons?

Pest Control:

20- What practices did you use last year for pest control?

21- **Data of Pest Control costs:**

Type of Pest Control Practice	Source	Cost Per Fed. (LE)		
		Farmer Share	GOE Share	Total

22- Are you free to choose the type of pest control techniques? (yes/no)

If no, what are the reasons?

23- Did you get any pest control services from the private sector?(yes/no)

If no, why?

24- Do you plan to choose a private service provider if you are free to do so?(yes/no)

If no, why?

Wheat:

25- Are you free to sell your wheat to any buyers?(yes/no)

If no, what are the reasons?

Rice:

26- Were you free to sell your crop to any buyer?(yes/no)

If no, what are the reasons?

27-Did you get different offers from dealers?(yes/no)
If yes, who are they?

<u>Type of Dealer</u>	<u>Location of Dealer</u>	<u>Price Offered</u>	<u>Q'ty Sold</u>	<u>Sale Price</u>
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----

Water Conservation:

28- Did you hear, see or read any program concerning water conservation?(yes/no)
if yes, what is your source?

Recovering Capital Costs for Mesqa Improvements:

29- Have you heard about Mesqa Improvement Project? (yes/no)
If yes, What benefits did you get from the project?

30- Did the GOE collect any money for the cost sharing program for mesqa improvements? (yes/no)

CODING BOOK

I.GOVERNORATE:

BEHIRA	= 1
KAFR EL-SHEIK	= 2
EL-SHERKIA	= 3
EL-DAKAHLIA	= 4
EL-FAYOUM	= 5
BENISUEF	= 6
MINYA	= 7
ASSUIT	= 8

II. DISTRICTS:

KFR ELDAWAR	= 11
EL-MAHMODIA	= 12
KFR EL-SHIEKH	= 21
DISOUK	= 22
DIARB NIGM	= 31
AWLAD SAKKER	= 32
TALKHA	= 41
EL-SINBALAWEEN	= 42
EL-FAYOUM	= 51
ETTSA	= 52
EHNASIA	= 61
ELFASHN	= 62
SAMALOUTT	= 71
BANI MAZAR	= 72
MANFALOUTT	= 81
ASSUIT	= 82

III. VILLAGES :

Bardla,
El Bidda El Balad
Dirott, ArimonEl-Agozeen,
Sanhour El-Madina
Doqmera,
El-Wazireya
Bahout, Banoub

Shobra hour,
Abou Karamaat
Diarb Negm El Balad, Monshaat Sahbra

El Sofia, Telrak
Defno, Katoun
Zawiet El Kerdasa,
Dasia
Qay, El Awawna
Akfhass, El Konissa
El-Quess, Ashroba
Beni Hakam, Menakateen
Mosha, Salam
Hawatka, Beni Odayat

VI. REASONS OF CHANGING CROP AREA :

- 1.REASONS RELATED TO CROP ROTATION AND NEIGHBORS.
- 2.THE NEED FOR PROVIDING OWN CONSUMPTION FROM FOOD CROPS.
- 3.AVAILABILITY OF IRRIGATION WATER.
- 4.CULTIVATING FODDER CROPS FOR LIVESTOCK.
- 5.CHANGING RELATIVE PROFITS OF CROP ROTATIONS.
- 6.NOT PREFERRING THIS CROP BECAUSE OF ITS TECHNICAL AND ECONOMIC PROBLEMS.
- 7.HAVING A DEAL WITH A RESEARCH STATION FOR DELIVERING THE OUTPUT TO BE USED FOR SEED NEXT YEAR.

V. CROPPING PATTERN:

V.1. DECISION OF CROP AREA AND ALLOCATION:

- 1.THE FARMER ONLY.
- 2.THE FARMER AND HIS FAMILY.
- 3.THE FARMER AND HIS NEIGHBORS.
- 4.CROP ROTATION FOR TECHNICAL REASONS.
- 5.THE DECISION OF THE BIGGEST FARMER IN THE HODE.

V.2. WHOM DO YOU CONSULT CONCERNING CROPPING PATTERN:

1. RELATIVES AND NEIGHBORS.
2. EXTENSION AGENT.
3. PARTNER(OWNER OR RENTER).
4. CONSULT NOBODY.
5. NEIGHBORS AND EXTENSION AGENTS.

VI. CHEMICAL FERTILIZERS:

VI.1. TYPE OF FERTILIZERS:

1. AMMONIUM NITRATE.
2. UREA.
3. SUPER PHOSPHATE.
4. POTASSIUM SULPHATE.
5. AMMONIUM SULPHATE.
6. IMPORTED SUPER PHOSPHATE.

VI.2. TYPE OF DEALERS:

1. COOPS.
2. BDACS.
3. LOCAL TRADERS.

VI.3. LOCATION OF DEALERS :

1. INSIDE THE VILLAGE.
2. OUTSIDE THE VILLAGE.

VI.4. QUALITY DEGREE AND SERVICES:

1. DIFFERENT.
2. INDIFFERENT.

A.

VI.5. PREFERABLE SOURCE:

1. COOPS.
2. BDACS.
3. COOPS AND BDACS.
4. LOCAL TRADERS.

VI.6. REASONS FOR PREFERENCE:

1. BETTER QUALITY.
2. LOWER PRICES .
3. GOOD SERVICE.

VI.7. TIME TO GET FERTILIZER:

1. APPROPRIATE.

2. INAPPROPRIATE.

VI.8. REASONS FOR INAPPROPRIATE TIME IN GETTING FERTILIZER:

1. UNAVAILABILITY OF SUPPLY AT THE TIME NEEDED.
2. HIGHER FERTILIZER PRICES.
3. UNAVAILABILITY OF CASH TO PAY IMMEDIATELY TO THE TRADER.

VII. COTTON TRADE:

VII.1. FREEDOM OF COTTON TRADE:

1. YES.
2. NO.

VII.2. REASONS FOR BEING NOT FREE IN COTTON TRADE:

1. THERE IS ONLY ONE BUYER (PBDAC).
2. TRADERS ARE NOT INTERESTED.
3. SELLING COTTON TO OTHERS IS PROHIBITED.

VII.3. TYPE OF BUYERS:

1. MARKETING CIRCLES.
2. TRADERS WHO BUY FROM FARMERS AND SELL TO PBDAC.
3. TRADERS AND MARKETING CIRCLES.

VII.4. REASONS FOR SELECTING BUYERS:

1. HIGHER PRICES.
2. CONFIDENCE IN GETTING PAID SOON.
3. FULFILL THE FAMILY COMMITMENTS.
4. NO OTHER BUYER IS AVAILABLE.
5. RELIABILITY OF WEIGHING AND GRADING ARE GUARANTEED.

VII.5. KNOWING FLOOR PRICES:

1. YES.
2. NO.

VII.6. TIME OF KNOWING:

1. BEFORE PLANTING (YES).
2. AFTER PLANTING (NO).

VII.7. SOURCE OF INFORMATION:

1. MEDIA.
2. RELATIVES AND NEIGHBORS.
3. COOPS.

VIII. DELINTED COTTON:

VIII.1. SUFFICIENCY OF SEEDS:

1. ENOUGH FOR PLANTING.
2. NOT ENOUGH FOR PLANTING.
3. ENOUGH FOR PLANTING AND REPLANTING.
4. INSUFFICIENT FOR EITHER PLANTING OR REPLANTING.

VIII.2. REASONS FOR INSUFFICIENCY OF DELINTED SEEDS:

1. APPLYING MANUAL TECHNIQUE NEEDS MORE SEED.
2. TYPE OF SOIL, CLIMATE AND ENVIRONMENTAL CONDITIONS.
3. LOW SEED QUALITY
4. LOW QUANTITY OF SEED.

IX. PEST CONTROL PRACTICES:

1. MANUAL, CHEMICAL AND BIOLOGICAL PEST CONTROL BY COOPS.
2. CHEMICAL BY THE PRIVATE SECTOR.
3. USING BOTH COOPS AND PRIVATE SECTOR.

IX.1. SOURCE OF INSECTICIDES:

1. COOPS.
2. PRIVATE SECTOR.
3. COOPS AND PRIVATE SECTOR.

IX.2. FREEDOM OF USING DIFFERENT PRACTICES:

1. YES.
2. NO.

IX.3. REASONS FOR NOT BEING FREE:

1. THE NEED FOR GETTING THE APPROVAL OF COOPS FOR USING A SPECIFIC PRACTICE.

2. NOT BEING ABLE TO PAY PEST CONTROL COSTS IN CASH.
3. NON AVAILABILITY OF APPROPRIATE INSECTICIDES IN THE PRIVATE SECTOR.

IX.4. REASONS OF NOT GETTING SERVICES FROM PRIVATE SECTOR:

1. UNAVAILABILITY NEAR FARMER.
2. LACK OF CONFIDENCE IN QUALITY AND PRICES OF PRIVATE SECTOR.
3. UNAVAILABILITY OF CASH TO PAY IMMEDIATELY.
4. THERE IS NOT ENOUGH INFORMATION ABOUT SERVICES PROVIDED BY THE PRIVATE SECTOR IN THE AREA OF PEST CONTROL.
5. PEST CONTROL PRACTICE ENFORCED BY THE COOPS.

IX.5. PLANNING TO DEAL WITH THE PRIVATE SECTOR IN THE FUTURE:

1. LACK OF CONFIDENCE IN QUALITY AND PRICES OF THE PRIVATE SECTOR.
2. INSECTICIDE QUALITY OF COOPS IS GUARANTEED.
3. LACK OF CASH.
4. NO QUALITY CONTROL IS APPLIED TO THEIR GOODS.

X. FREEDOM OF WHEAT AND RICE TRADE:

1. YES.
2. NO.

X.1 TYPE OF BUYERS OF RICE:

1. LOCAL TRADER.
2. AGENTS OF MILLING COMPANIES.
3. CONSUMERS FROM THE VILLAGE OR NEARBY AREA.
4. TRADERS AND CONSUMERS.

X.2 BUYERS' LOCATION:

1. IN THE VILLAGE.
2. IN THE DISTRICT.
3. FROM OTHER DISTRICTS.
4. FROM OTHER GOVERNORATES.

XI. VARIETIES OF SHORT SEASON COTTON (FOR UPPER EGYPT GOVERNORATES):

XI.1. KNOWING ABOUT THE SHORT SEASON VARIETIES.

1. YES.
2. NO.

XI.2. SOURCE OF INFORMATION:

1. NEIGHBORS GREW IT.
2. MANY FARMERS TRIED IT.
3. THE FARMER HIMSELF TRIED IT.

XI.3. FARMER'S EVALUATION OF THE TRIAL:

1. IT IS TOO LATE TO GROW COTTON AT THAT DATE.
2. ITS YIELD IS LOW.
3. WHEAT HARVESTING IS LOW.
4. THE FARMER DOESN'T LIKE TO TAKE RISKS.
5. THE TRIAL IS GOOD.

XI.4. WILLING TO ADOPT THE TRIAL:

1. YES.
2. NO.

XI.5. REASONS FOR NOT ADOPTING THE TRIAL:

1. THE NEED FOR EARLIER PLANTING VARIETIES OF WHEAT.
2. DO NOT WANT TO TRY IT FIRST.
3. NOT PROFITABLE.
4. ITS YIELD IS NOT GUARANTEED.

XII. WATER CONSERVATION PROGRAM:

XII.1. KNOWING ABOUT WATER CONSERVATION PROGRAM:

1. YES.
2. NO.

XII.2. SOURCE OF INFORMATION:

1. MEDIA.
2. FARMERS.
3. COOPS.

XIII. MESQA IMPROVEMENTS PROJECT:

XIII.1. KNOWING ABOUT THE PROJECT:

1. YES.
1. NO.

XIII.2. BENEFITS GAINED FROM THE PROJECT:

1. THERE ARE BENEFITS.
2. NO BENEFITS.

XIII.3. REASONS OF NOT BENEFITTING FROM THE PROJECT:

ONLY ONE VILLAGE HAD THE PROJECT.

XIII.4. COLLECTING MONEY FROM FARMERS FOR INVESTMENT COSTS:

1. YES.
2. NO.